2006 were identified and categorized into two groups: with DM and without DM. Patients with complete insurance coverage and medication information 1-year prior and post the index hospitalization were included. Annual health care costs (in 2008 US dollars) and resource utilization were compared for both groups (All $p < .001$ unless otherwise stated). **RESULTS:** Of 12,502 patients who met the study selection criteria, 3,040 (24%) were diabetic and 9,462 (76%) were non-diabetic. Higher percent of diabetic patients had at least one all-cause rehospitalization event (49.0% vs 35.2%) or cardiovascular-related rehospitalization event (45.5% vs. 32.3%). Mean length of stay (LOS) was longer for diabetic patients during the index hospitalization (4.3 days vs. 3.3 days), as well as during the rehospitalization event (all-cause: 4.6 days vs 3.3 days; cardiovascular-related: 4.6 days vs 3.2 days). In addition, patients with DM had more physician's office visits (16.3 vs. 12.4), ER visits (0.8 vs. 0.5), and outpatient hospital visits (9.0 vs. 7.1) during the 12-month follow-up period. Both cohorts had similar index ACS hospitalization costs ($32,026 vs. $29,082) but diabetic patients incurred higher rehospitalization costs (all-cause: $19,913 vs $10,947; cardiovascular-related: $18,256 vs $10,093), outpatient costs ($14,836 vs. $8,617) and pharmacy costs ($6,105 vs. $3,921). One-year follow-up health care costs were significantly higher for patients with DM compared with those without DM ($40,853 vs. $23,485). **CONCLUSIONS:** The presence of DM significantly increases health care costs and resource utilization for ACS patient.

PCV78

ONE-YEAR HEALTH CARE COSTS FOR ACUTE CORONARY SYNDROME PATIENTS WITH DIFFERENT TREATMENT STRATEGIES DURING THE INITIAL HOSPITALIZATION

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OBJECTIVES: This study calculated 1-year total health care costs for ACS patients and evaluated differences based on treatment strategy for patients during their initial hospitalization. **METHODS:** Commercially insured individuals, aged 18–64, participating in a large claims database were identified by a hospitalization with an ACS diagnosis between January 2004 and December 2005 with a 1-year follow-up period. Patients who had an ACS diagnosis in the prior 12-month to their initial ACS hospitalization were excluded. Patients were divided into 3 groups by treatment strategy during the initial hospitalization: MM, PCI or CABG. Multivariate linear regression was performed to assess the adjusted cost differences across these 3 groups. **RESULTS:** A total of 19,617 ACS patients were identified, of which 52% (n = 10,152) were managed by medical therapy, 40% (n = 7962) by PCI and 8% (n = 1539) by CABG. Mean length of stay and per-patient expenditures during the initial hospitalization for the MM, PCI and CABG groups were 1.9 days/$10,878, 3.3 days/$31,900 and 9.3 days/$68,333, respectively. One-year follow-up costs were $25,131 for MM, $21,039 for PCI, and $22,677 for CABG, where 46%, 42% and 46% of these costs were due to rehospitalization, and 4.7%, 10% and 5.9% were due to ACS-related prescription drug costs. Controlling for differences in demographics and clinical characteristics, CABG patients had approximately $52,365 greater 1-year total health care costs compared to MM patients ($p < 0.01$) while PCI patients had approximately $15,952 higher total health care costs than MM patients ($p < 0.01$). Factors associated with increased costs included gender, age, comorbidities, initial hospitalization diagnosis, treatment strategy and prior health care costs. **CONCLUSIONS:** Total 1-year health care costs are substantial for working-aged patients newly diagnosed with ACS and significantly different across the three treatment groups. Significantly higher costs were observed in patients managed interventionally, particularly by CABG, with the majority of these costs incurred during the initial hospitalization.

PCV79

BURDEN OF ILLNESS STUDY IN PATIENTS WITH RESISTANT HYPERTENSION IN UK

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OBJECTIVES: Resistant hypertension is defined as blood pressure (BP) that remains above goal in spite of the concurrent use of three antihypertensive agents from different classes. Some patients with resistant hypertension do not receive further treatment, potentially increasing the overall burden of disease on the health care system through increased health care use. To examine the burden of resistant hypertension to the UK health care system and explore the potential cost resulting from non-treatment of resistant hypertension. **METHODS:** The Health Improvement Network computerized data from 6.8 million patients in 382 practices was used to randomly select 9,000 patients with probable or confirmed resistant hypertension. Patients were characterized by number of therapies received according to NICE treatment guidelines (three therapies: step 3 vs. four or more, step 4). Blood pressure was used to classify patients as controlled or uncontrolled hypertension. Associations between covariates and patient status were examined using analysis of variance and logistic regressions. Pattern of care was assessed for patients in each category using descriptive statistics. **RESULTS:** Mean age of patients with hypertension included in the study was 68.8 (SD = 11.5). Among patients in step 3 at baseline, 57.2% had uncontrolled BP (mean BP 151/81 v. 127/73); among patients in step 4, 57.9% were uncontrolled (mean BP 153/80 v. 136/72). After two years of follow-up, approximately 25% of patients did not receive treatment recommended by NICE guidelines. Older male patients with diabetes or kidney disease were more likely to have resistant hypertension or uncontrolled BP at either step 3 or 4. **CONCLUSIONS:** A large proportion of patients with hypertension do not achieve BP control despite maintaining three or more antihypertensive therapies. The impact of not treating these patients with appropriate therapies can substantially contribute to overall burden of hypertension borne by the UK health care system.

PCV80

LONGITUDINAL COST IMPACT OF ATRIAL FIBRILLATION IN PATIENTS SUFFERING FROM CARDIOVASCULAR DISEASES

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OBJECTIVES: To examine the cost impact of atrial fibrillation (AFib) in patients with atherothrombotic diseases in a German statutory health insurance population. **METHODS:** Study design: A retrospective review of the medical, hospital and pharmacy claims data (2004–2005) in the database of a German statutory health insurance. We reviewed pharmacy and medical claims data for the years 2004–2005 from an insurance covering about 5 Mio insurees. The data of patients suffering from cardiovascular diseases (myocardial infarction, stroke or PAD) were available. By using the documented ICD-10 codes (I48.10, I48.11, and I48.19) for hospitalizations we identified patients who experienced Afib during 2004 and 2005. For these patients we reviewed all the charges incurred for a one-year period after the initial index event on the basis of weekly costs and from the third party payer's perspective. **RESULTS:** A total of 14,798 patients (mean age: 72 ± 10 years) with Afib could be included in the analysis. The majority of the patients (55%) were female. The cost for atrial fibrillation patients for one year was €7690. The largest portion of the total cost (78%) resulted from the costs for hospitalization while the initial hospital stay was associated with 30% of total costs. Approximately 100% of the study population received prescription drugs at an average cost of €1155 per prescription drug user. Compared to the duration before the initial diagnosis of Afib, the costs increase by the factor 1.4 during the first year after the event. The majority of costs one year after the event arise during the first 10 weeks (approx. 50%). **CONCLUSIONS:** An acute Afib-event in patients with atherothrombotic diseases represents a significant financial burden from the perspective of the statutory health insurance population. Improved management of the condition is needed to reduce the cost of treatment associated with AF.

PCV81

ECONOMIC IMPLICATIONS OF OBESITY AMONG PEOPLE WITH ATHEROTHROMBOTIC DISEASE IN AUSTRALIA

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OBJECTIVES: To measure the cost of disease from the governmental perspective associated with body weight in people with or at high risk of atherothrombotic disease, using a bottom-up approach to cost estimation; and to explore the causes of any differences found. **METHODS:** The health care costs of obesity were estimated from 2819 participants recruited into the nation-wide Australian REACH Registry with established atherothrombotic disease or at least three risk factors for atherothrombosis. Enrolment was in 2004, through primary care general practices. Information was collected on the use of cardiovascular drugs, hospitalisations and ambulatory care services. 'Bottom-up' costing was undertaken by assigning unit costs to each health care item, based on Australian Government-reimbursed figures 2006–2007. Generalised-linear models were used to estimate associations between direct medical costs and BMI categories. **RESULTS:** Annual pharmaceutical costs per-person increased with increasing BMI, even after adjusting for gender, age, living place, formal education, smoking status, hypertension and diabetes. Adjusted annual pharmaceutical costs of overweight and obese patients were higher ($83 ($p = 0.006$) and $142 (<0.001), respectively) than those of the normal-weight patients. This was due to patients in higher BMI categories receiving more pharmaceuticals than normal-weight patients with the same condition. There was no significant change across the BMI categories in annual ambulatory care costs and annual hospital costs. **CONCLUSIONS:** In these patients with, or at high risk of, atherothrombotic disease, annual pharmaceutical costs were greater in patients with higher BMI, but there was no such gradient in annual hospital or ambulatory care costs. The greater cardiovascular pharmaceutical costs for patients of higher BMI remained even after adjusting for a range of demographic factors and comorbidities, and our results suggest that they are explained by a higher number of drugs used for the same condition. Further investigation is needed of the reasons for this level of drug utilisation.

PCV82

THE IMPACT OF LOST THERAPEUTIC BENEFIT (LTB) IN HIGH RISK PATIENTS MANAGED FOR HYPERTENSION IN AUSTRALIAN GENERAL PRACTICE

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OBJECTIVES: Lost Therapeutic Benefit (LTB) (receiving medication without attaining target BP levels) may lead to increased morbidity and mortality due to cardiovascular disease. Objectives of this study were to estimate the extent of LTB in patients at high risk of atherothrombotic events and to model the impact of attaining target BP levels in LTB patients on cardiovascular event rates over a two-year period. **METHODS:** The Australian REACH registry consists of 2872 high-risk patients of which 2856 (99.4%) were followed for cardiovascular events over a two-year period. The mean

age was 72.8 ± 8.9 yrs, 65.1% were male and 78.7% had a history of hypertension. LTB was calculated as the proportion of patients receiving antihypertensive therapy who were not attaining guideline BP control targets. A hypothetical intervention to lower blood pressure to the normal range was applied to those individuals identified with LTB, to estimate the number of cardiovascular disease events which could be prevented. Logistic regression was used to find the predictors of LTB and event rates were compared using Chi squared tests. **RESULTS:** Among the 2856 Australian REACH participants, 70.1% (n = 2002) had uncontrolled blood pressure (>130/80 mmHg) and 88.3% (2522) had been taking anti-hypertensive medication. LTB was 70.7% (1784). The major univariate predictors of LTB were gender, age, diabetes, hypertension, carotid plaque, cholesterol, BMI and congestive heart failure. Assuming a hypothetical blood pressure intervention is applied to the LTB group resulting in controlled blood pressure (≤130/80 mmHg), 8 cardiac events per 1000 people and 21 cardiovascular disease events including coronary heart disease intervention per 1000 people could be prevented. **CONCLUSIONS:** Improving BP control in patients receiving antihypertensive medication may prevent 8 cardiac events per 1000 people and 21 CVD events per 1000 people within this study group. At a population level, this would represent a major cardiovascular event reduction strategy.

PCV83

RELATIONSHIP BETWEEN THE COST AND HOSPITAL QUALITY

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OBJECTIVES: Inpatient surgery is a major component of overall health care spending. We examined variation in outlier payment across US hospitals and the extent to which variation is explained by quality of care. **METHODS:** We used the 2006 Medicare Provider Analysis and Review (MEDPAR) file. We identified coronary artery bypass grafting (CABG).We first describe the incidence of outlier payments for CABG, average outlier payment amount and their contribution to overall inpatient payments. We then explore how outlier payments vary according to patient characteristics and across hospitals. Multiple logistic regression is used to examine to extent to which different factors serve as independent predictors of outlier payments. Standard errors are adjusted for the effect of clustering of outlier payments within hospitals. In assessing variation in outlier payments across hospitals, we described the distribution of outlier payment prevalence (proportion of patients associated with outlier payments) by hospital. We, then assessed hospital variation using fixed-efects logistic regression models. **RESULTS:** The proportion of patients associated with outlier payment was 11%. Average outlier payments were considerable: $26,064. Outlier payment for CABG cost CMS approximately $480 million in 2006. Outlier payments were major contributors to the overall inpatient cost: 12.9%. Approximately 20% of hospitals had outlier rates below 5% for coronary artery bypass surgery, while 25% had outlier rates exceed 20%. Although, there were patient level risk factors that determine patient level otulier payment rates, this did not explain hospital level variation. Higher volume hospitals were less likely to have patients with outlier payments. **CONCLUSIONS:** Aiming to accelerate the quality improvements, payers are increasingly applying value-based purchasing strategies to surgical care. We showed that the variation in outlier payments across US hospitals is substantial for CABG and patient level risk factors can not explain hospital level variation. Hospital and surgical volume as a quality indicator is negatively related with outlier payments.

PCV84

AN ASSESSMENT OF THE COST OF PERCUTANEOUS PULMONARY VALVE IMPLANTATION USING MELODY VERSUS SURGICAL VALVE REPLACEMENT IN PATIENTS WITH RIGHT VENTRICULAR OUTFLOW TRACT DYSFUNCTION

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OBJECTIVES: To assess the cost of percutaneous pulmonary valve implantation (PPVI), **a new procedure introduced in 2000 as a less invasive treatment for right** ventricular outflow tract (RVOT) dysfunction, **and the cost of surgical valve replace**ment in patients with right ventricular outflow tract dysfunction using a cohort simulation model. **METHODS:** A cost analysis was performed from the perspective of the purchaser (the UK NHS). The cost of PPVI was estimated using data based on a total of 141 patients who had undergone PPVI from 2000 to 2008. The cost of surgical valve replacement in a similar group of patients was estimated using a cohort simulation model populated with data drawn from the literature and expert opinion, given that PPVI has supplanted this procedure in the clinical setting analysed. **The model is** a cohort simulation model and assesses the cost of surgery using a hypothetical population of 1000 individuals **with right ventricular outflow tract dysfunction starting when** their first valved biological conduit was surgically placed and following them for a period of 25 years assuming that 1) PPVI is not available as an option, and 2) that PPVI is available for those eligible for it. **RESULTS:** The model resulted in an estimate of mean cost per patient of £5276 in the absence of PPVI and in an estimate of mean cost per patient of £7958 in the presence of PPVI over the 25 years period of analysis. **CONCLUSIONS:** PPVI although more costly than the surgical alternative, it appears to delay surgery thus having a significant impact on the health and the quality of life of this patient population. More research is needed to quantify the magnitude of the impact on the quality of life and to assess the role of modelling generally in assessing costs and effects in medical devices.

PCV85

COST CONSEQUENCES OF REDUCED CVD RISK THROUGH IMPROVED SBP CONTROL: A COMPARATIVE ANALYSIS OF VALSARTAN VERSUS LOSARTAN

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OBJECTIVES: The effect of hypertension on increased risk of cardiovascular disease events has been demonstrated through population based studies, and the predictive value of SBP has been repeatedly demonstrated in risk prediction models derived from such studies. A recent meta-analysis of evidence regarding SBP reduction by ARB antihypertensives has demonstrated a significant difference in the SBP reduction observed in patients treated with valsartan, compared to those treated with losartan. An economic model has been constructed to evaluate the effect of this difference on the risk of a first CVD event, and the resulting costs. **METHODS:** Inputs for the model are drawn from published sources and publically available datasets. CVD risk prediction was performed using equations derived from the Framingham Offspring Study cohort. The model evaluated an untreated group, and groups treated with valsartan, and losartan. Each treatment group was stratified into those with mild hypertension or moderate hypertension. **RESULTS:** Basecase analyses represent outcomes over 20 years from baseline moderate HTN classification in a US population of age 18 and over. Valsartan was associated with a marginal cost of $1,983 vs. the untreated arm, and a marginal cost of $466 in comparison to losartan. These costs resulted in estimates of $33,540 per event avoided vs. untreated and $37,484 vs. losartan. Incremental costs per QALY were $7,067 vs. no treatment and $8,067 vs. losartan. **CONCLUSIONS:** Analysis results indicate that reduction in SBP from baseline is associated with small reductions in primary CVD rates, and overall CVD treatment costs. Valsartan performed better than losartan because it was associated with a greater decrease in SBP from baseline (according to meta-analysis results). Overall, the calculated cost effectiveness ratios for treatment with valsartan indicate that valsartan is likely to be cost-effective when compared to no treatment or treatment with losartan in control of SBP.

PCV86

COST-EFFECTIVENESS OF TRANSCATHETER AORTIC VALVE IMPLANTATION IN HIGH-RISK PATIENTS WITH SYMPTOMATIC AORTIC VALVE STENOSIS IN FRANCE

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OBJECTIVES: To investigate the efficiency of minimally-invasive Transcatheter Aortic Valve Implantation (TAVI) delivered through the transfemoral or transapical approach compared with open-heart conventional aortic valve replacement or medical management alone in high risk patients with aortic stenosis in France. **METHODS:** A longitudinal cohort model was developed to predict clinical and economic outcomes over three years in four cohorts of patients treated by either: transfemoral (TF) or transapical (TA) aortic valve implantation, surgical aortic valve replacement (AVR) or medical management (MED). Clinical outcomes included early perioperative complications (30 days) and late events (stroke, MI, endocarditis, valve reoperation, pacemaker implantation, hospitalization for acute heart failure, and death). In the absence of head-to-head clinical trials, efficacy data for the alternative approaches were extracted from various sources including clinical studies, registries, national health statistics and expert opinion. QALYs were assessed by mapping health utilities to NYHA class distribution. Direct medical costs were assessed by multiplying the number of resource items consumed with French unit costs (2008 values). **RESULTS:** In terms of predicted mean life years and QALYs per patient after 3 years, TAVI appears to be superior to the other approaches; 2.42 years or 1.76 QALYs for TF, 2.16 years or 1.61 QALYs for TA, versus 2.06 years or 1.50 QALYs for AVR, and 1.73 years or 0.98 QALYs for MED. Modeled average discounted (3%) cumulative direct medical costs per patient amount to €46,677 (TF), €45,468 (TA), €50,630 (AVR), and €78,208 (MED). These findings imply that both transcatheter approaches appear to be dominant versus conventional high-risk AVR as well as medical management. Probabilistic sensitivity analyses confirmed the robustness of these model results. **CONCLUSIONS:** TAVI appears to be an economically promising technology. However, additional data from on-going clinical studies and registries need to be awaited to confirm these preliminary results.

PCV87

COST-EFFECTIVENESS OF PRASUGREL VERSUS CLOPIDOGREL IN PATIENTS WITH ACUTE CORONARY SYNDROMES AND PLANNED PCI: RESULTS FROM THE TRITON-TIMI 38 TRIAL FROM THE GERMAN PERSPECTIVE

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OBJECTIVES: In patients with acute coronary syndromes (ACS) and planned PCI, the TRITON-TIMI 38 trial demonstrated that treatment with prasugrel compared with clopidogrel was associated with a reduced rate of cardiovascular death/MI/stroke and an increased risk of major bleeding. We evaluated the cost-effectiveness of treatment with prasugrel vs. clopidogrel for the duration of the trial, from the perspective of the German health care system, based on data from TRITON-TIMI 38. **METHODS:**